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Textiles – Test Methods for Nonwovens – Part 16: Determination of Resistance to Penetration by Water (Hydrostatic Pressure)

(ISO 9073-16:2007, MOD)

纺织品 非织造布试验方法

第 16 部分：抗渗水性的测定（静水压法）

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Foreword

GB/T 24218 *Textiles – Test Methods for Nonwovens* can be divided into the following parts:

--- Part 1: Determination of Mass Per Unit Area;

--- Part 2: Determination of Thickness;

--- Part 3: Determination of Tensile Strength and Elongation (Strip Method);

--- Part 5: Determination of Resistance to Mechanical Penetration (Ball Burst Method);

--- Part 6: Determination of Absorption;

--- Part 8: Determination of Liquid Strike-Through Time (Simulated Urine);

--- Part 10: Lint and Other Particles Generation in the Dry State;

--- Part 11: Run-off;

--- Part 12: Demand Absorbency;

--- Part 13: Repeated Liquid Strike-Through Time;

--- Part 14: Coverstock Wetback;

--- Part 15: Determination of the Air Permeability;

--- Part 16: Determination of Resistance to Penetration by Water (Hydrostatic Pressure);

--- Part 17: Determination of Resistance to Penetration by Water (Spray Impact);

--- Part 18: Determination of Breaking Force and Elongation at Break (Grab Method);

--- Part 101: Saline Repellency (Mason Jar Method).

This Part belongs to Part 16 of GB/T 24218.

This Part was drafted as per the rules specified in GB/T 1.1-2009.

This Part adopts the re-drafting method to modify and use the ISO 9073-16: 2007 *Textiles – Test Methods for Nonwovens – Part 16: Determination of Resistance to penetration by Water (Hydrostatic Pressure)*.

The major technical differences and causes between this Part and ISO 9073-16: 2007

are as follows:

--- For the normative references, this Part adjusts the technical differences, so that adapt to China's technical conditions; the adjusting situations mainly reflect in the Clause 2 "Normative References"; the specific adjustment are as follows:

- Replace ISO 139 by GB/T 6529 which modifies and adopts the international standards (see 7.2);
- Replace ISO 3969 by GB/T 6682 which modifies and adopts the international standards (see 7.4);
- Replace ISO 10012 by GB/T 19022-2003 which equivalently adopts the international standards (see 6.1);
- Delete the quotation of ISO 3951-5.

--- Modify 7.1 in ISO 9073-16: 2007 "Sampling as per the provisions of ISO 3951-5" into "Sampling as per the product standard provision or agreement of relative parties. Unless otherwise specified, cut the representative samples", which may conform to our test procedures more.

--- Supplement the contents of 7.7 in ISO 9073-16: 2007; increase the accepting or rejecting method against the results of edge leakage or single-place continuous leakage; so that improve the operability of the judgment.

--- Delete the contents of 8.4 in ISO 9073-16: 2007; currently, the tester used domestic and international can meet the requirements of such item.

--- Delete the Item i) and Item l) in the Clause 9 of ISO 9073-16: 2007; increase "standard deviation, if required, gives the coefficient of variation" to Item j).

This Part does the following editorial modifications:

--- Unify the hydrostatic pressure in the standard into hPa;

--- Adjust the contents of 3.1 in ISO 9073-16: 2007 into NOTE in 5.1d); and correct "0.000981m" into "0.0102m";

--- Modify the terminology in 3.2 of ISO 9073-16: 2007 into "resistance to penetration by water of nonwoven materials";

--- Modify the contents in 5.1.1-5.1.5 of ISO 9073-16: 2007 into the column item form;

--- Simplify the contents in 8.2 of ISO 9073-16: 2007;

--- Increase the NOTE in 8.3.

Textiles – Test Methods for Nonwovens – Part 16: Determination of Resistance to Penetration by Water (Hydrostatic Pressure)

1 Scope

This Part of GB/T 24218 specifies adopting the hydrostatic pressure method to determine the resistance to penetration by water of nonwovens.

This Part is applicable to the nonwovens intended for use as resistance the liquid penetration.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB/T 6529 Textiles – Standard Atmospheres for Conditioning and Testing (GB/T 6529-2008, ISO 139: 2005, MOD)

GB/T 6682 Water for Analytical Laboratory Use – Specification and Test Methods (GB/T 6682-2008, ISO 3696:1987, MOD)

GB/T 19022-2003 Measurement Management Systems – Requirements for Measurement Processes and Measuring Equipment (ISO 10012:2003, IDT)

3 Terms and Definitions

The following terms and definitions are applicable to this document.

3.1 Resistance to penetration by water of nonwoven materials

The ability of nonwovens to prevent the water wetting and penetrating.

6 Calibration

6.1 The measurement confirmation of the tester shall conform to the provisions of Clause 7 of GB/T 19022-2003, Figure 2 and Appendix A. Due to different manufacturers have different instrument debugging steps, the calibration and debugging against the hydrostatic tester can be carried out directly in accordance with the production instructions.

6.2 Keep the tester level to ensure the accuracy of the test results.

6.3 Check the expected water pressure range of the sample that can be achieved by the tester.

6.4 If the columnar water pressing way is used, calibrate and ensure that the water pressure rise rate of (10±0.5)hPa/min or (60±3)hPa/min; water temperature of (23±2)°C.

7 Procedures

7.1 Sampling as per the product standard provisions or agreement of relevant parties. Unless otherwise specified, cut the representative specimen; each sample shall be cut into at least 5 pieces of specimens.

7.2 Humidifying and testing the specimen according to the standard atmospheric conditions specified in GB/T 6529; the pre-humidifying of specimen can be ignored after obtaining the consent of relevant parties.

After sampling, keep the specimen clean; avoid the soap, salt, oil and other impurities attaching to the specimen and affect the water penetration.

7.3 The specimen size shall be large enough to satisfy to test on the 100cm^2 test head; if the instrument allows, the strip-shape of specimen matching with the testing device can be used.

7.4 Level-III water specified in GB/T 6682 shall be used to test each specimen.

7.5 Carefully clean the water, debris and all substances that may affect the results on the surface of the clamping device.

7.6 Install the specimen onto the test head carefully, turn off the clamping device; and start testing.

If the tester's test head is equipped with a reservoir, ensure that the water flow forms convex surface. Carefully slid the specimen onto the water surface of test head; so that the positive face of the specimen contact with the water surface, and avoid bubbles

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